Opportunities for Natural System Drainage and Open Space

Northgate South Lot

Northgate Stakeholders Group
March 18, 2004

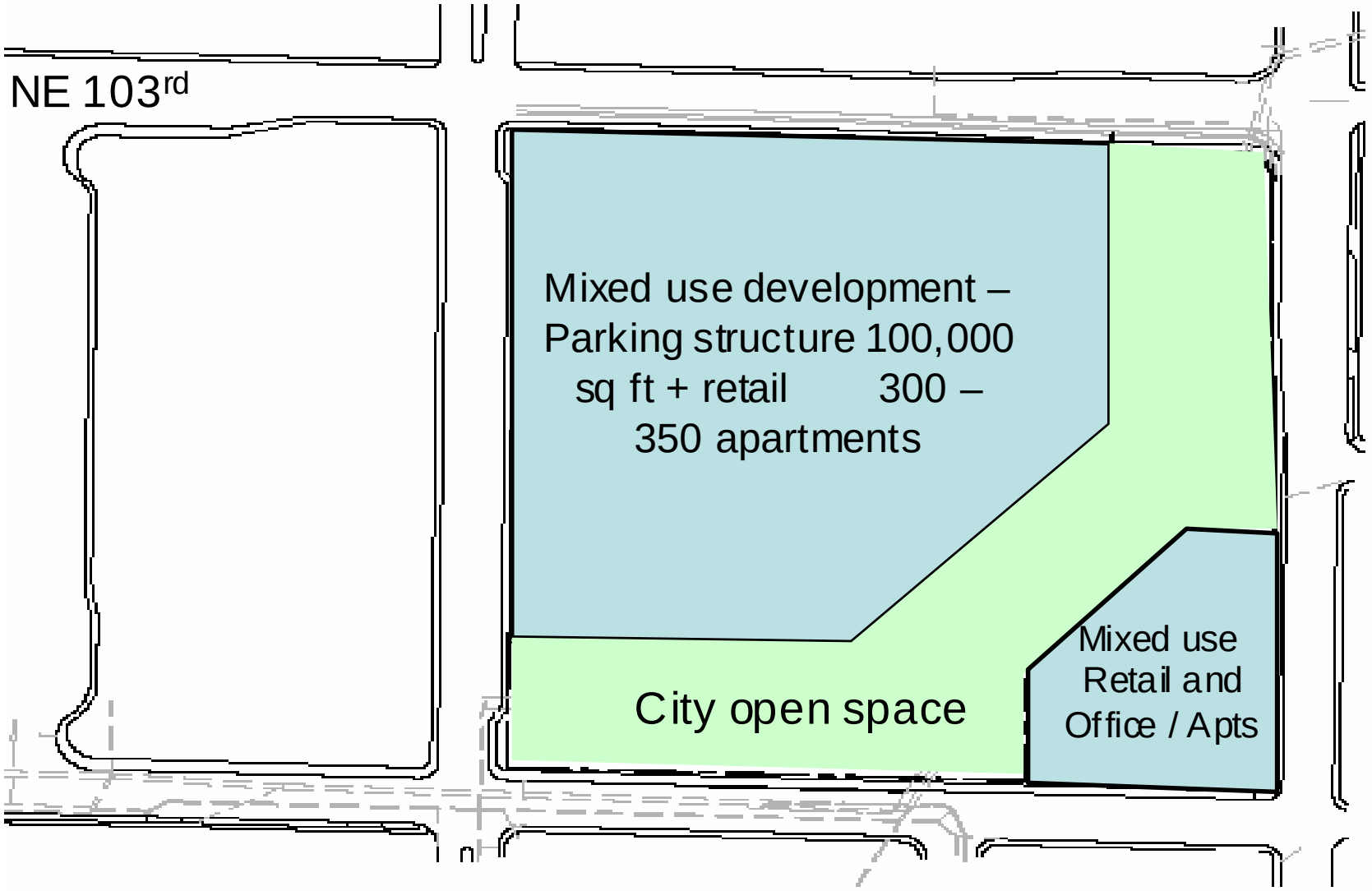
Seattle Public Utilities

City Council Direction

1. SPU Recommendation to integrate natural drainage and open space

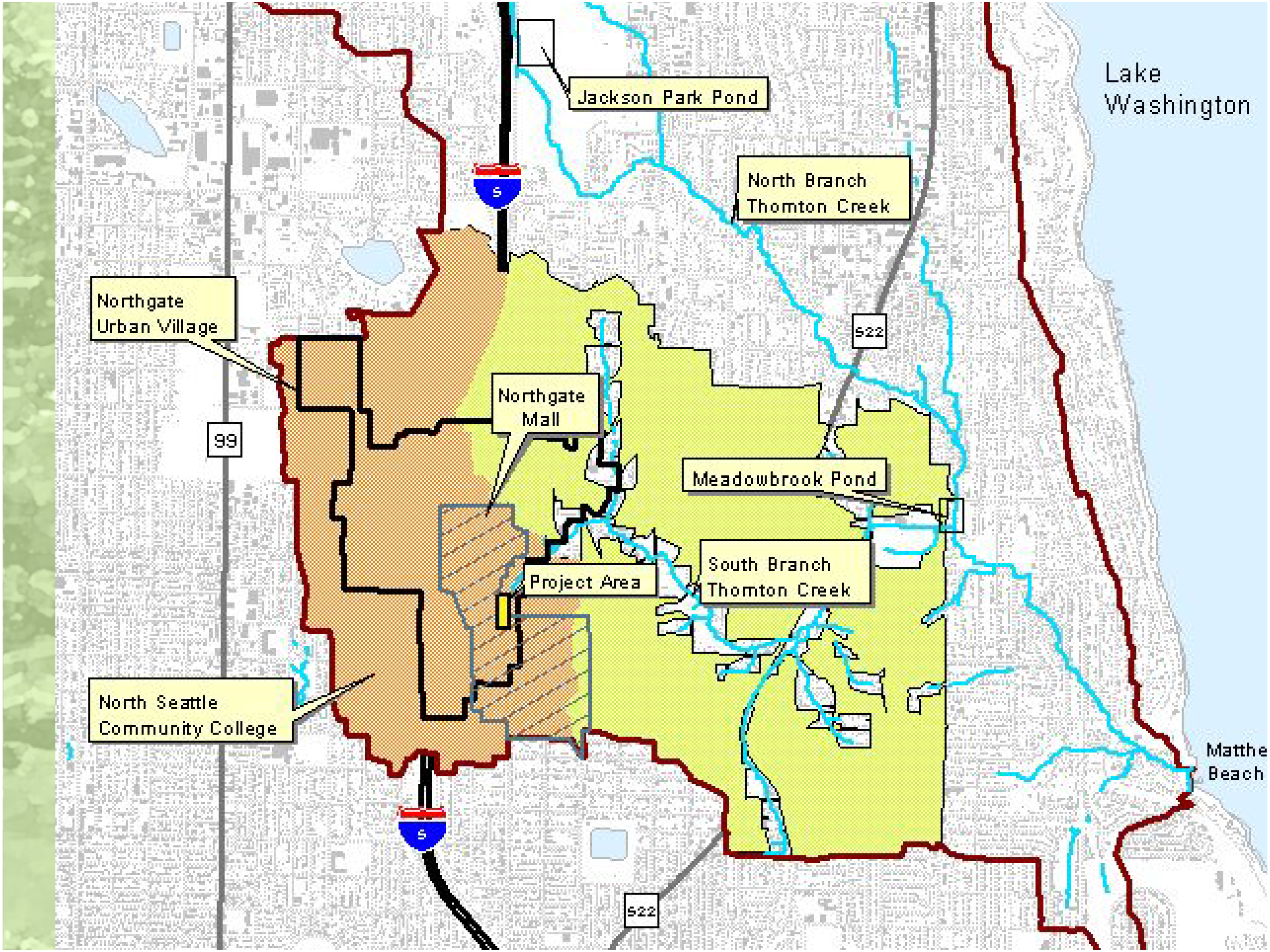
2. Evaluate three alternatives:
   - Daylight
   - Natural drainage system
   - Combination of Daylight/Natural Systems

... plus a no action alternative


NE 103rd
Mixed use development –
Parking structure 100,000
sq ft + retail 300 –
350 apartments
City open space
Mixed use
Retail and
Office / Apts

Key Principles

- Identify a cost-effective approach for social and environmental benefits
- Provide water quality benefits to Thornton Creek
- Ensure a responsible choice for ratepayer investment


Lake
Washington
Jackson Park Pond
North Branch
Thornton Creek
Northgate
Urban Village
Northgate
Mall
99
522
Meadowbrook Pond
South Branch
Thornton Creek
Project Area
North Seattle
Community College
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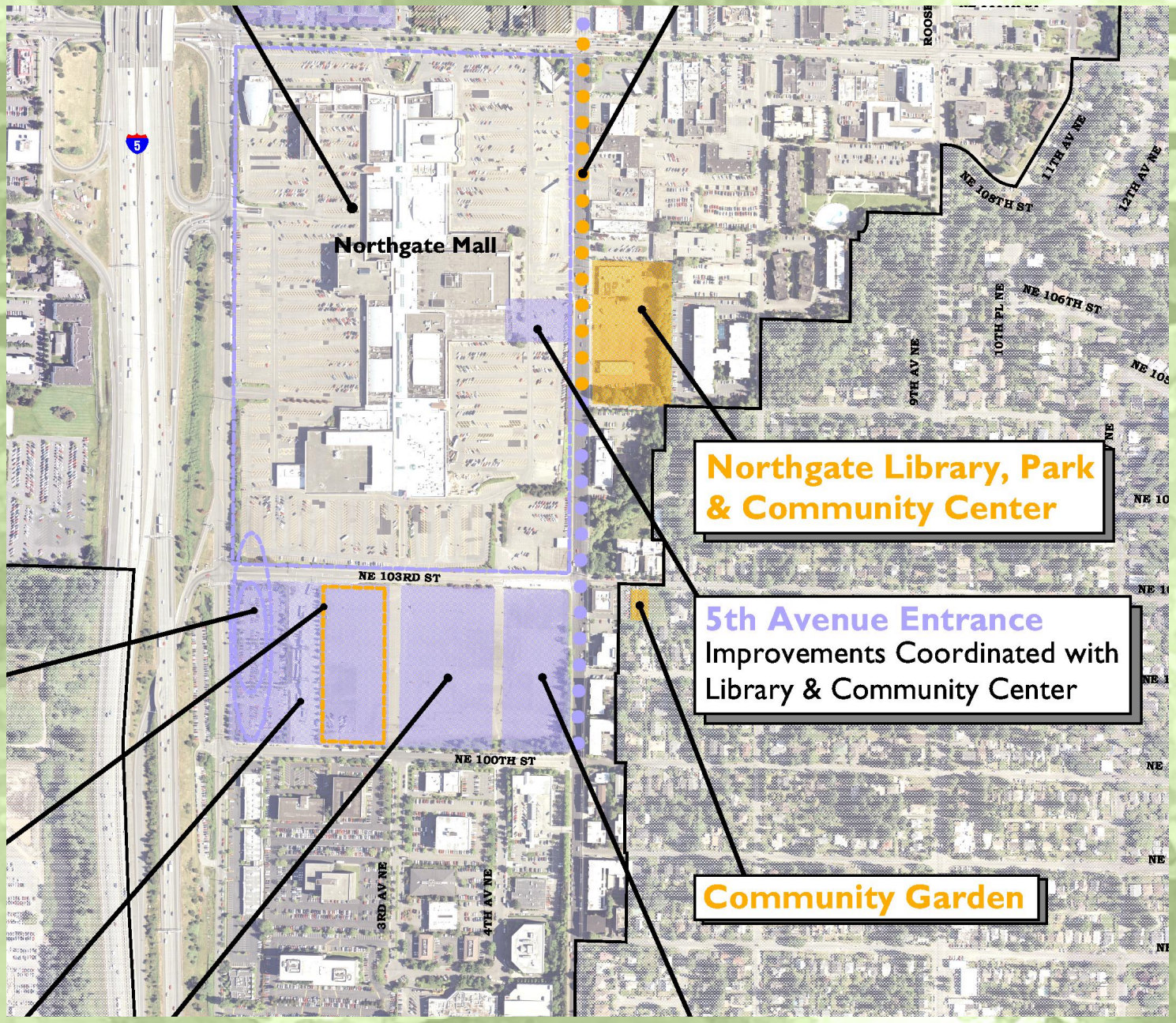
Matthe
Beach

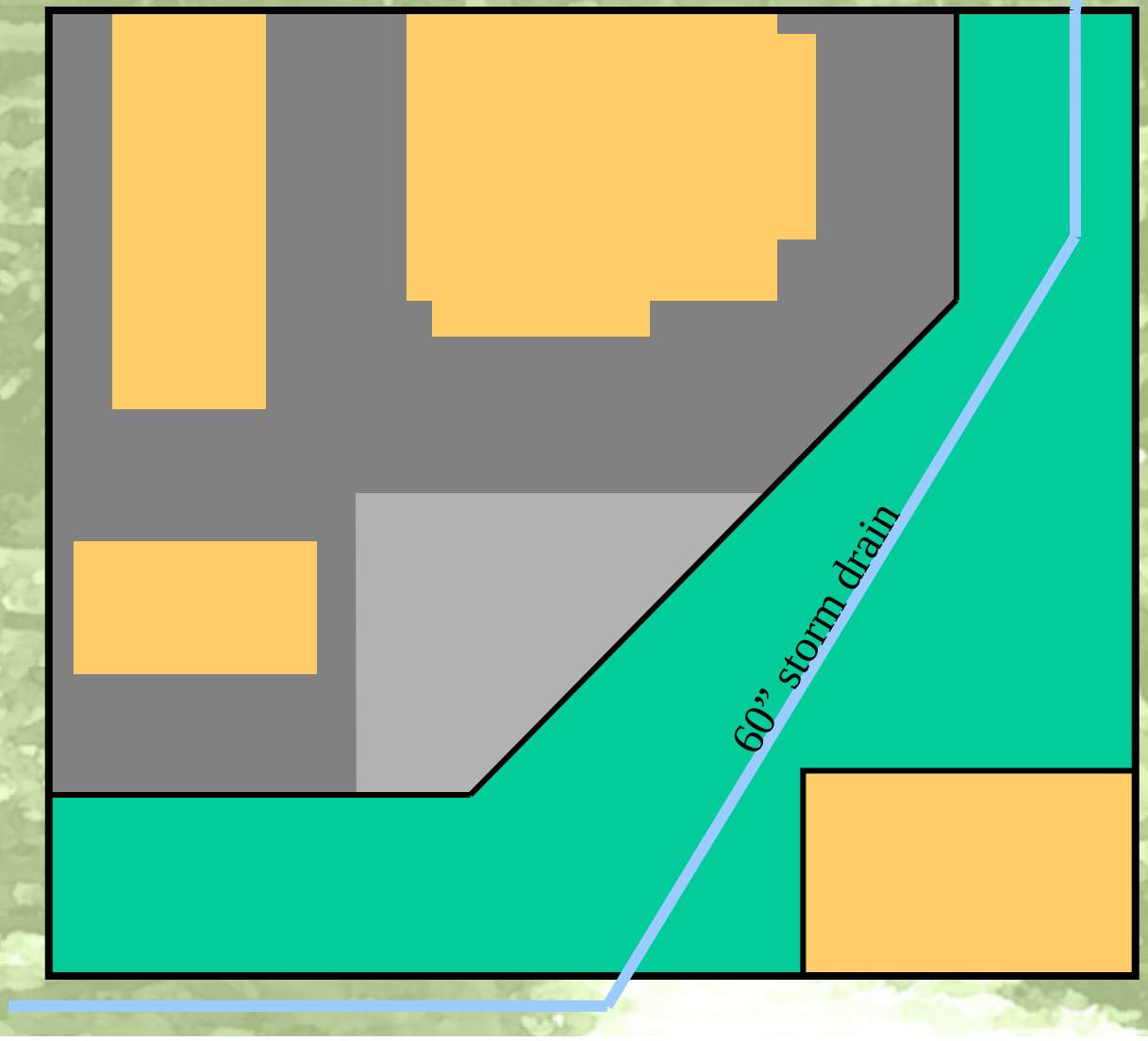

Northgate Mall
Northgate Library, Park & Community Center
5th Avenue Entrance
Improvements Coordinated with Library & Community Center
Community Garden
NE 103RD ST
NE 100TH ST
NE 106TH ST
NE 108TH ST
11TH AV NE
12TH AV NE
10TH PL NE
9TH AV NE
3RD AV NE
4TH AV NE
5

Key Similarities

- Pedestrian access
- Landscaping
- Integrated with adjacent development
- Surface water feature

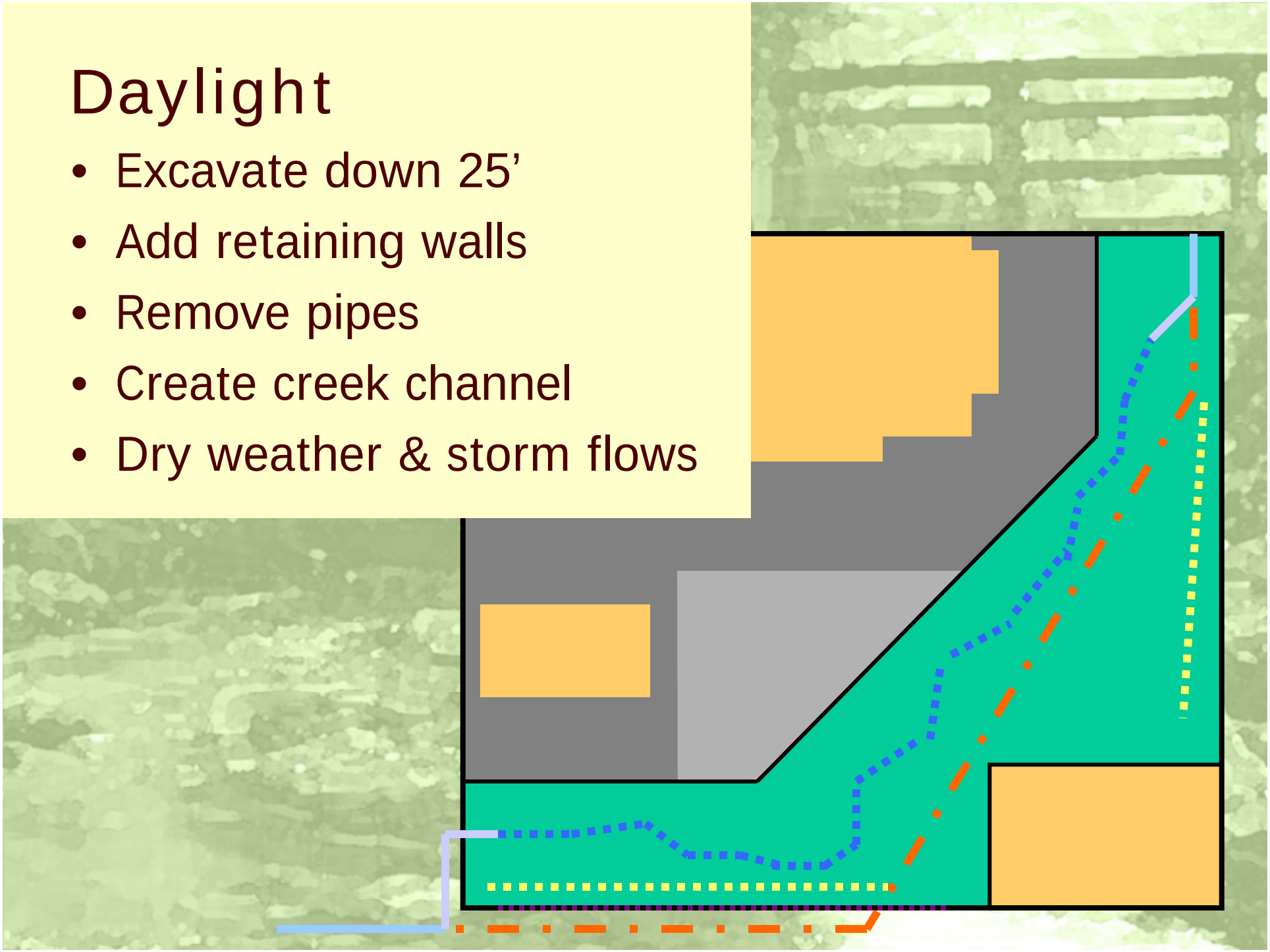
Current Drainage

(concept diagram)

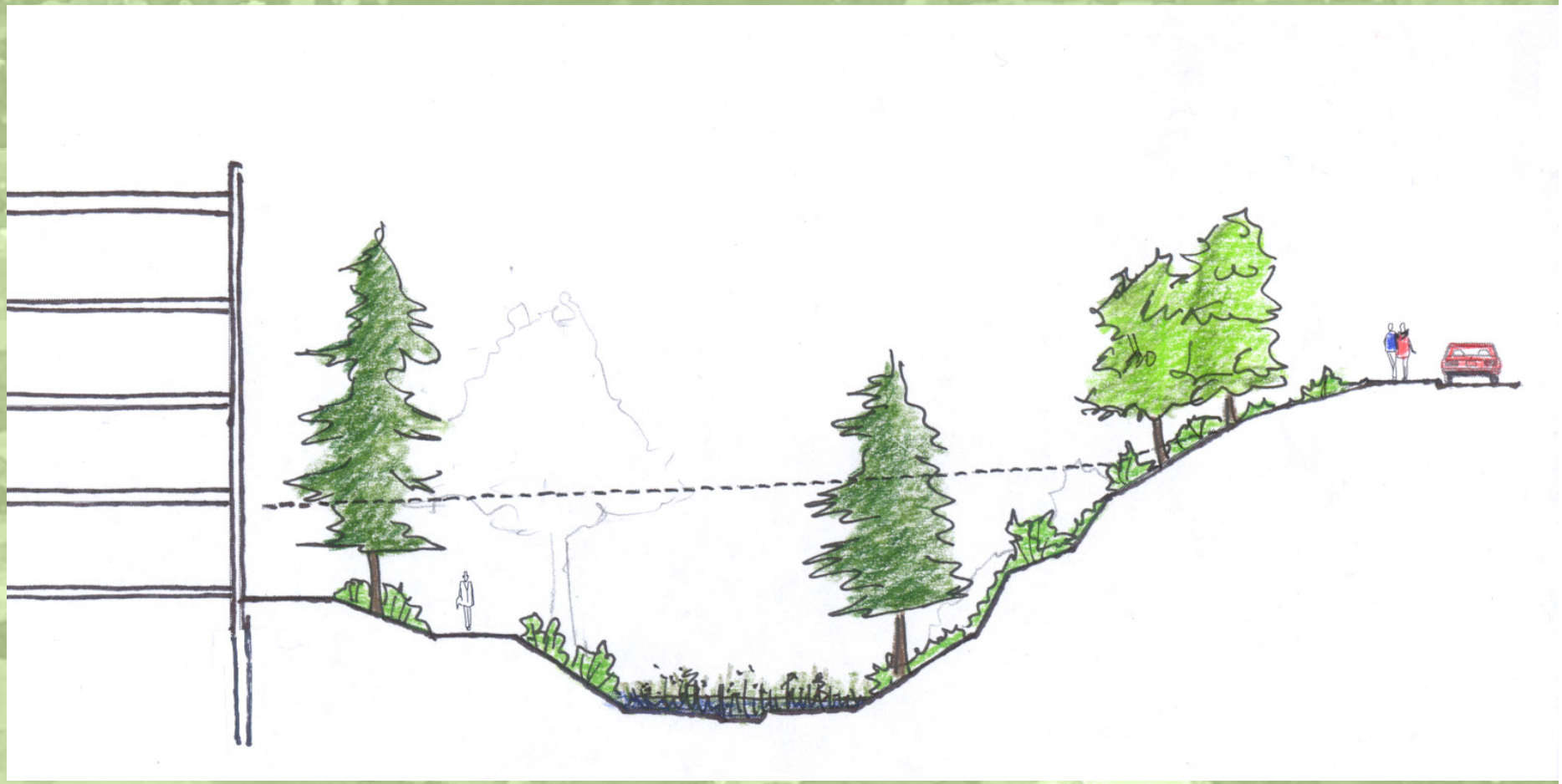


Daylight

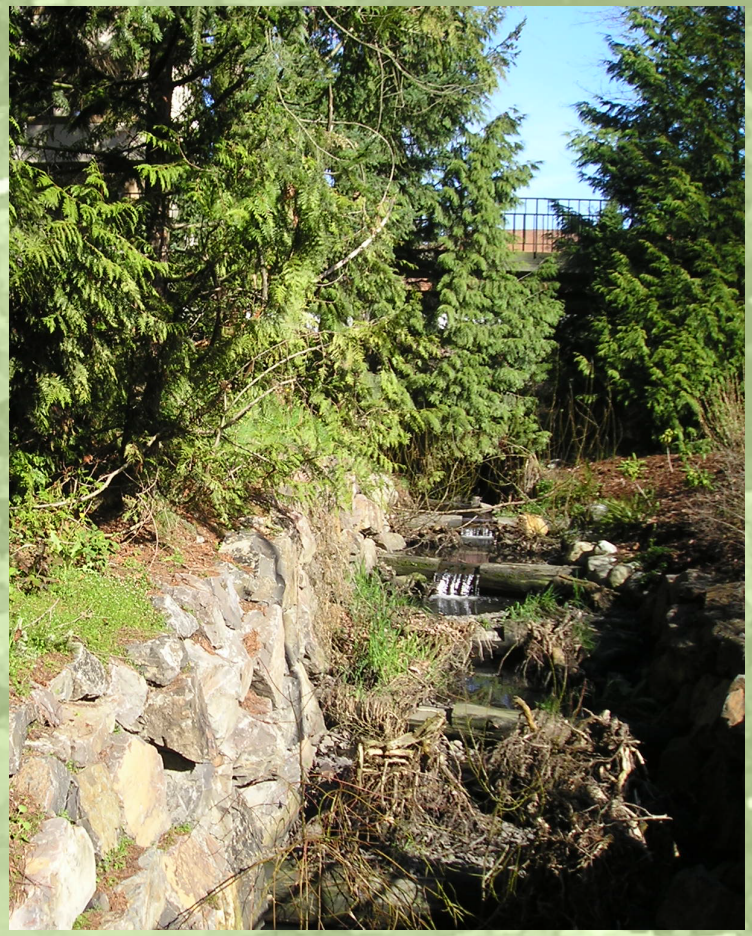
- Excavate down 25’
- Add retaining walls
- Remove pipes
- Create creek channel
- Dry weather & storm flows

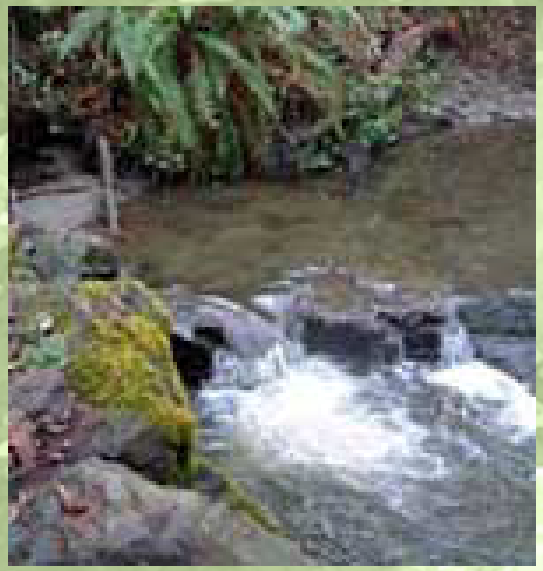


Daylight



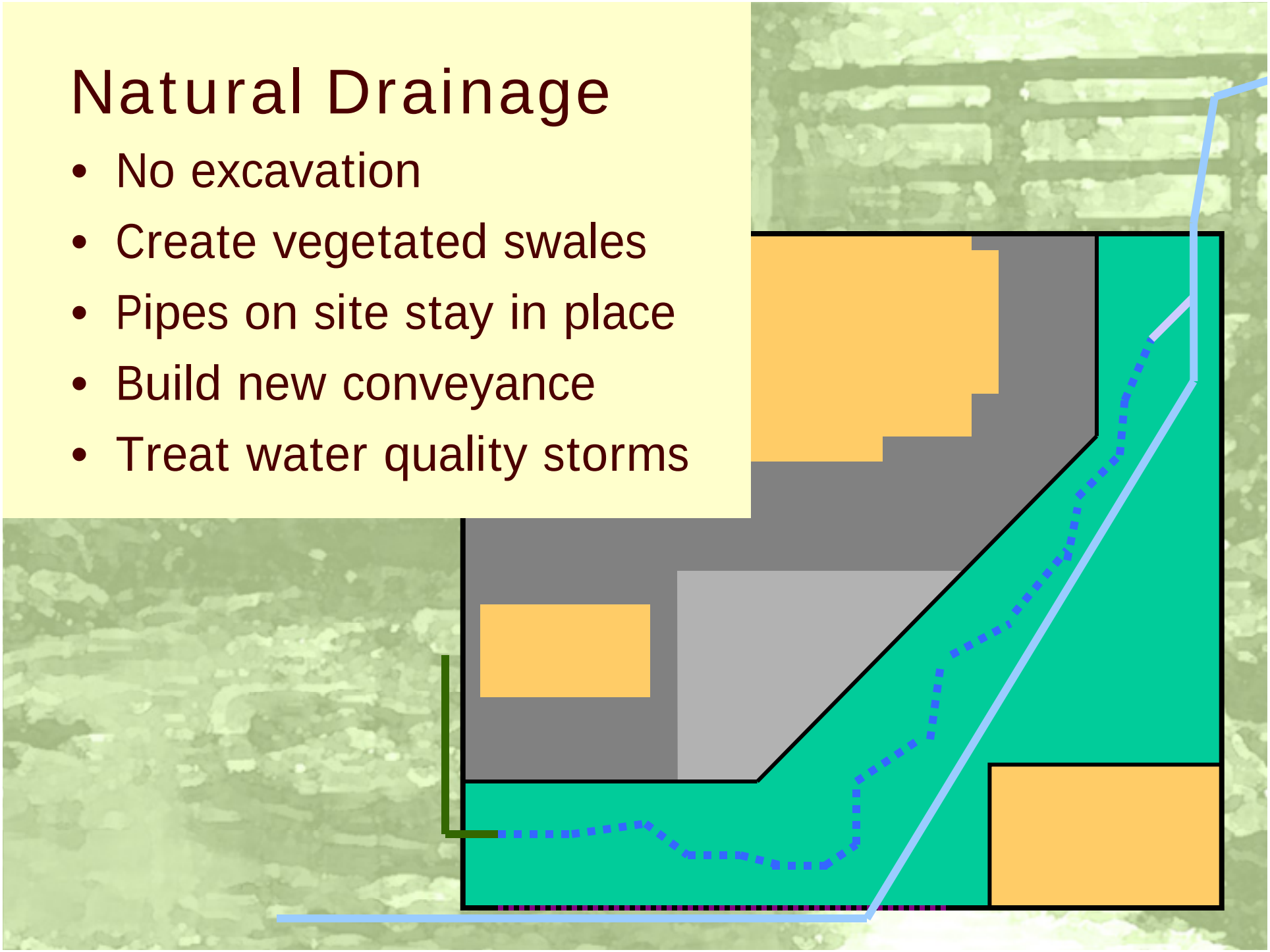
Daylight





Natural Drainage

- No excavation
- Create vegetated swales
- Pipes on site stay in place
- Build new conveyance
- Treat water quality storms

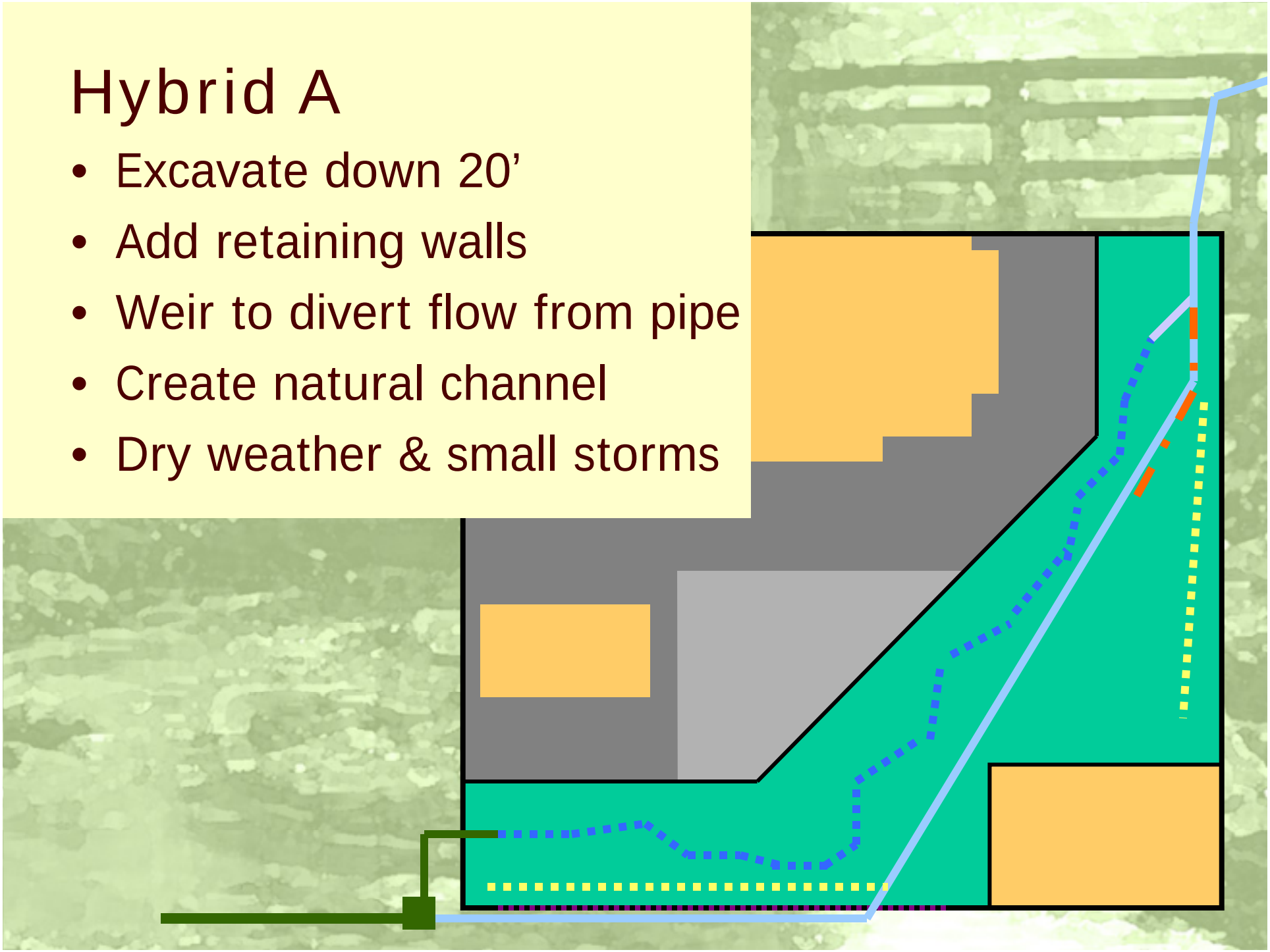


Natural Drainage System

Natural Drainage System

Hybrid A

- Excavate down 20’
- Add retaining walls
- Weir to divert flow from pipe
- Create natural channel
- Dry weather & small storms



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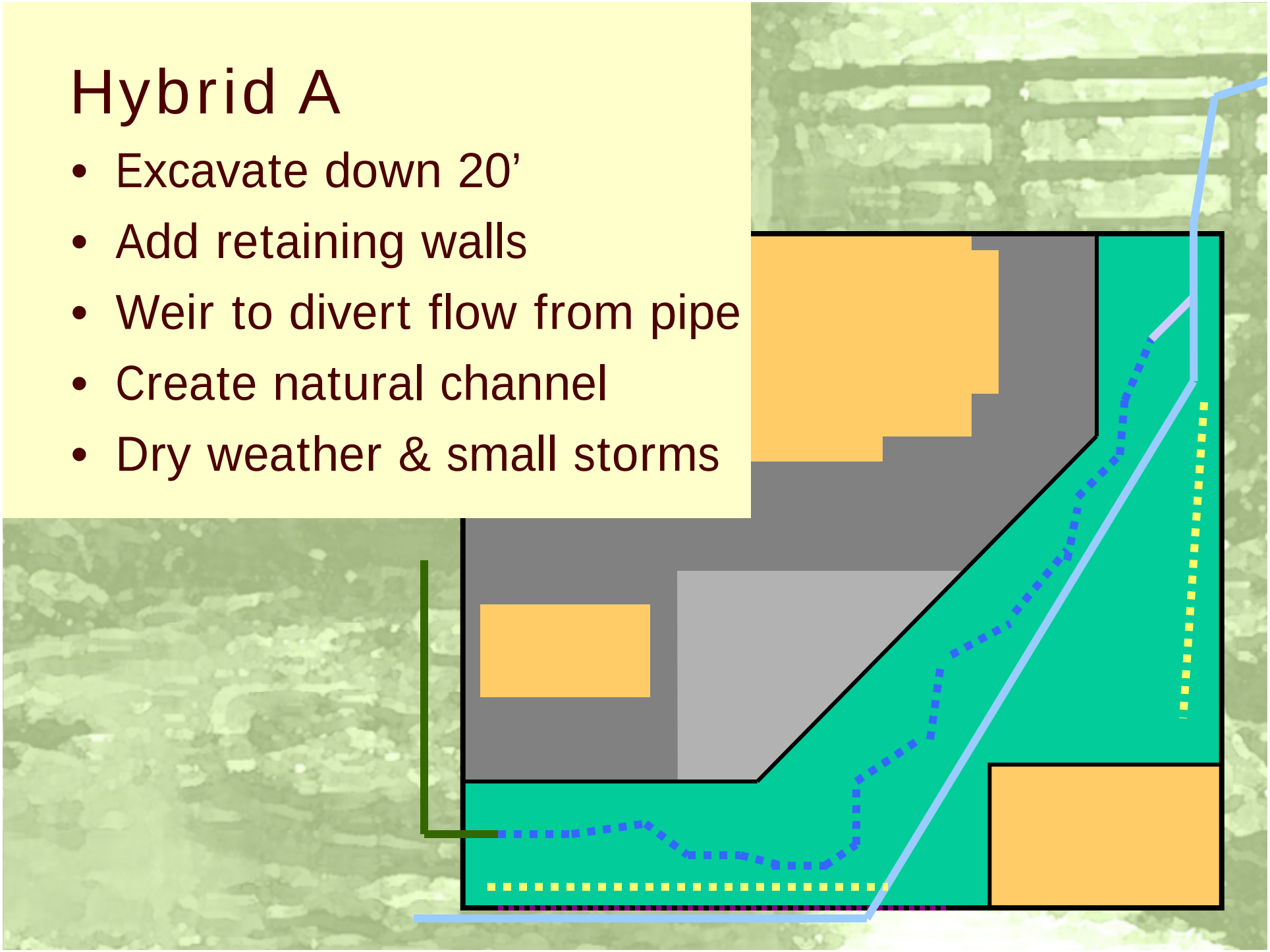
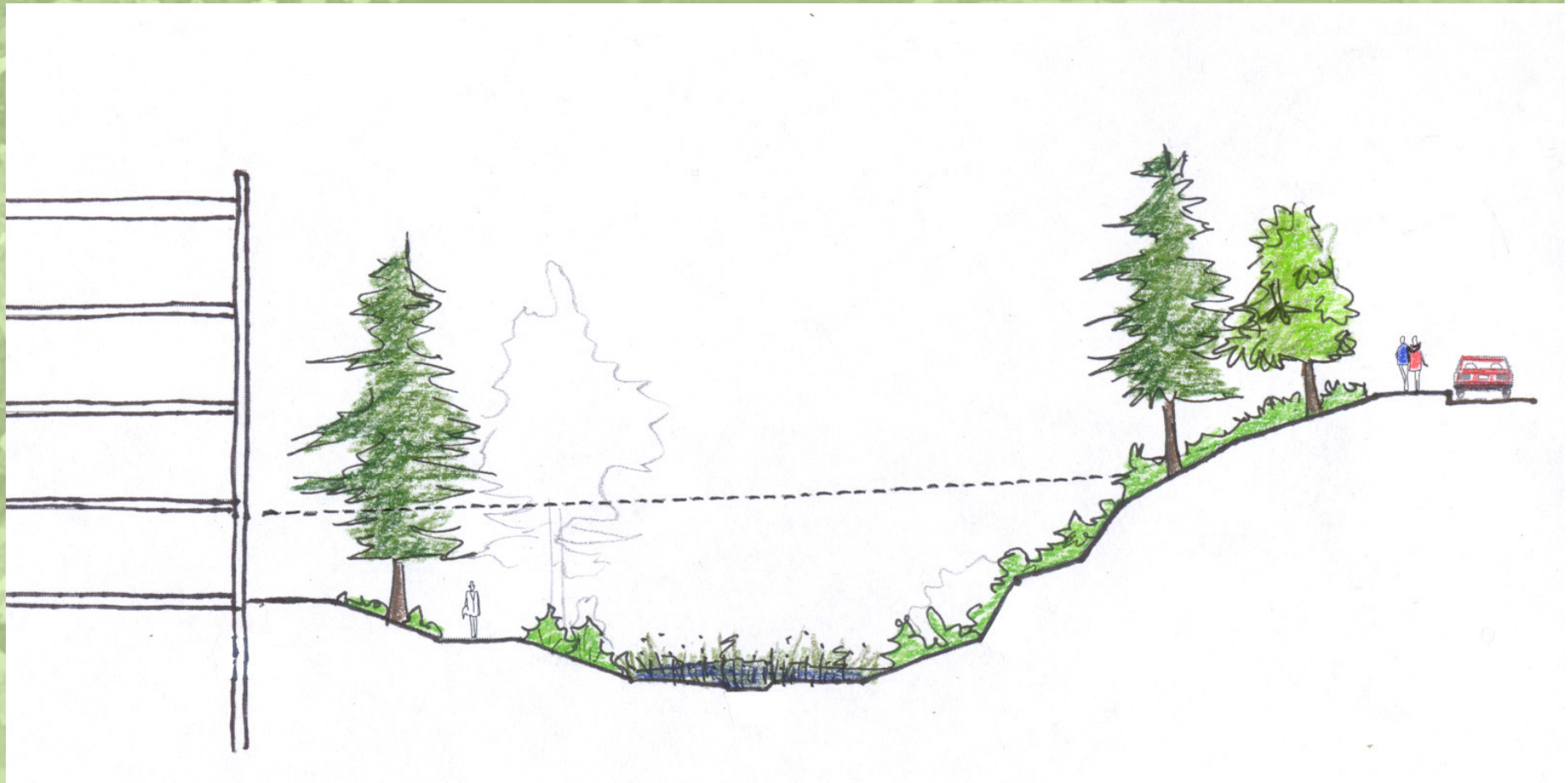


Hybrid of Daylight/Natural System



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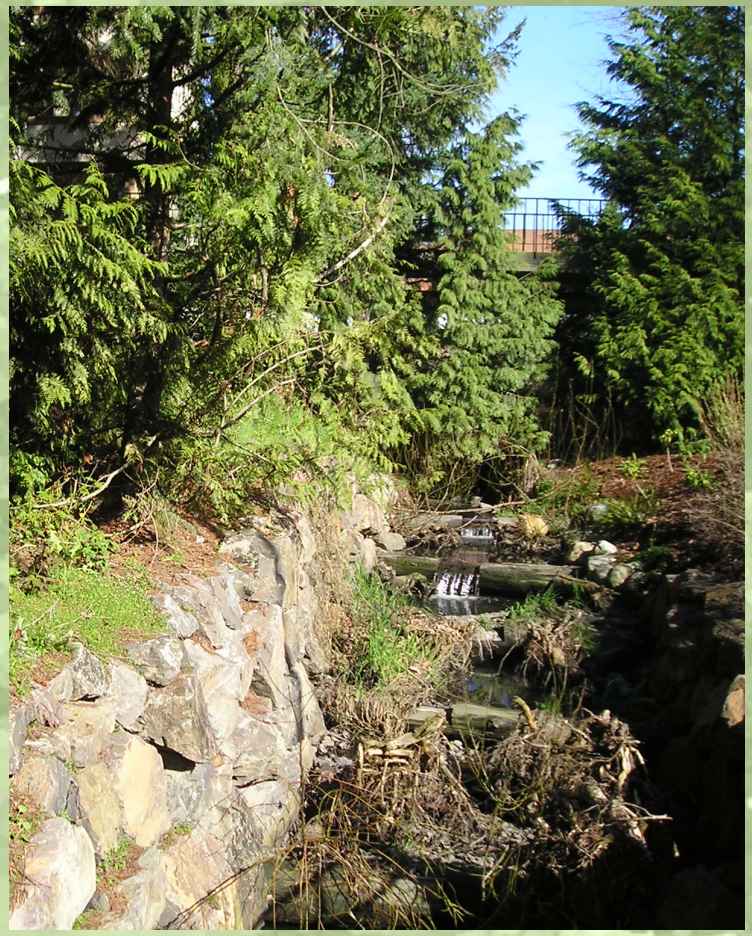
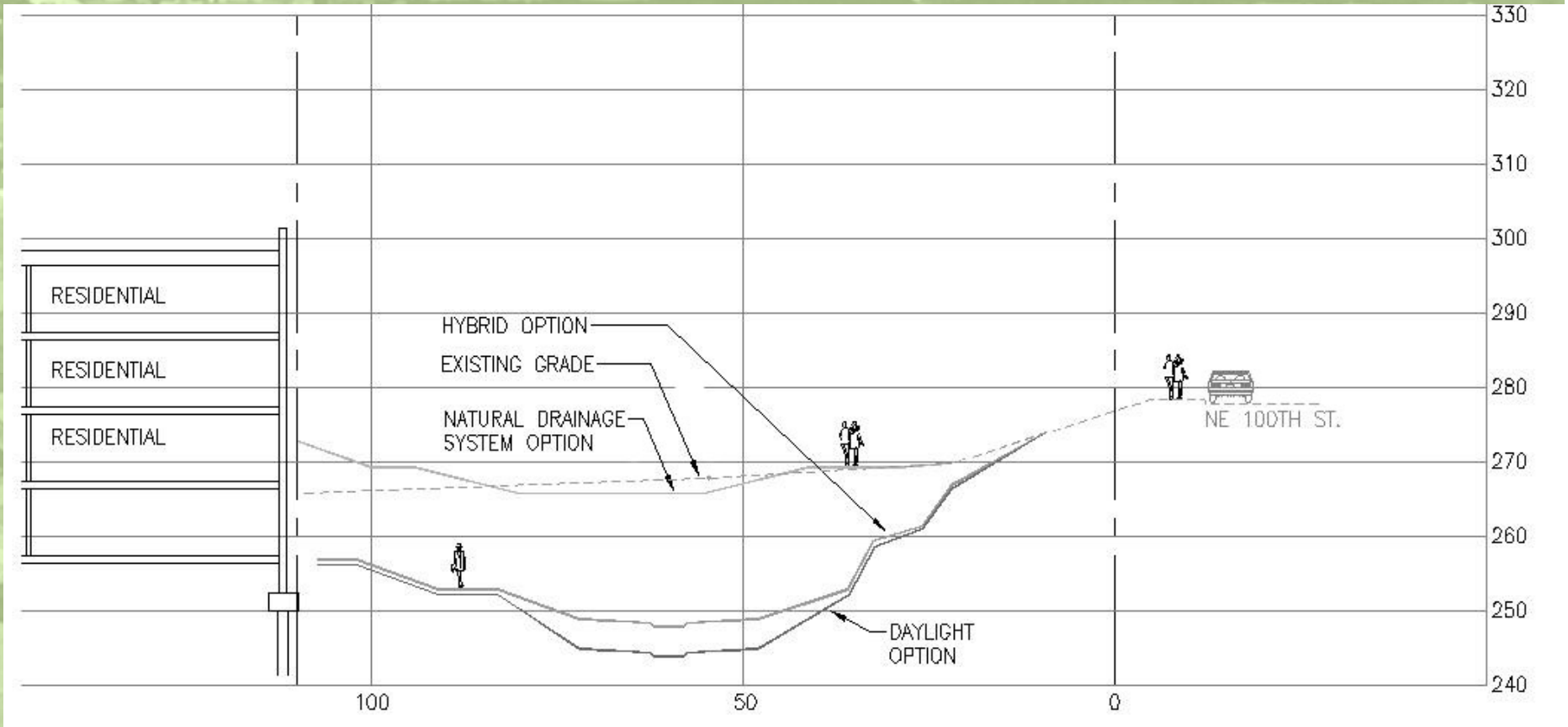
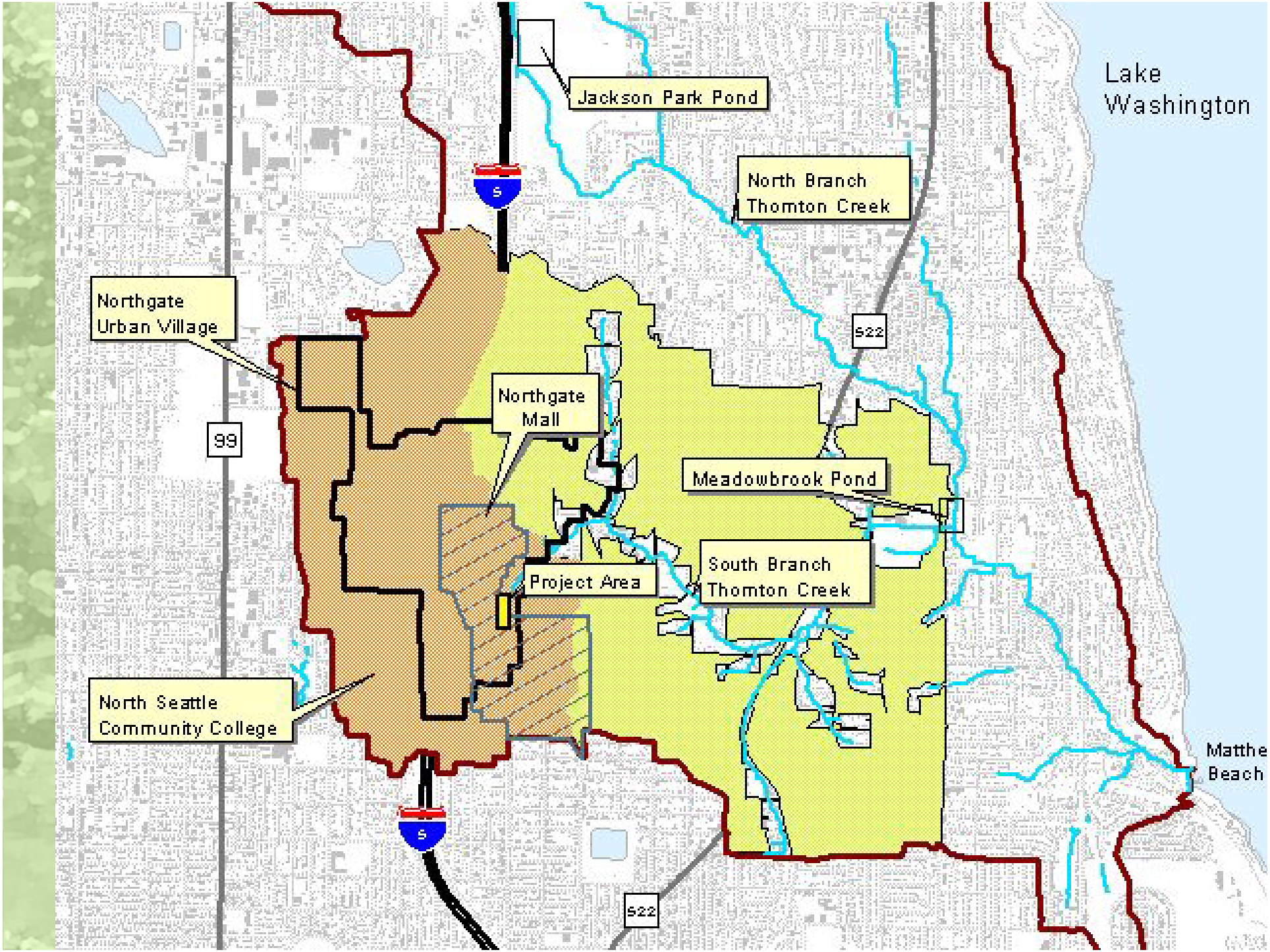


Key Differences

- Depth of open space
- Contributing drainage area
- Amount and duration of flows
- Modification of current pipe system

Depth of Open Space

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USGS

Asset Management Evaluation

- Evaluate all major projects and programs
- Identify lowest life-cycle cost
- Fulfill customer, environmental service levels
- Executive management review
- Ensures accountability to ratepayers

Evaluation Criteria

- Cost (Construction and maintenance)
- Engineering feasibility
- Relative risks
- Water quality benefits
- Habitat and flow benefits
- Open space benefits
- Compliance with drainage fund constraints

Team Approach

- Established experienced team
  - Gaynor Inc.
  - PACE Engineering
  - Herrera Environmental Consulting
  - SvR Design
- Firms involved in development of each option
- Review methods and assumptions
- Cost, feasibility and water quality

Stakeholder Schedule

3/18	Overview of options, process, roles
4/20	Presentation & discussion of criteria, analysis, results
5/11	Stakeholders input on alternatives analysis
5/20	Presentation on final analysis and recommendations
6/3	Stakeholders input on recommendation
June	Recommendation forwarded to City Council